

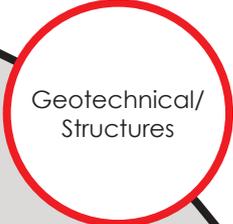


Caltrans Division of Research,
Innovation and System Information

Research



Results



Geotechnical/
Structures

OCTOBER 2015

Project Title:

Developing a Decision Making Framework for Caltrans Project Prioritization

Task Number: 2785

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Task Manager:

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Developing a Decision Making Framework for Caltrans Project Prioritization

Caltrans developed a Multi-Objective Decision Analysis (MODA) framework to prioritize projects within the State Highway Operation and Protection Program (SHOPP).

WHAT WAS THE NEED?

The goal of the SHOPP pilot project was to develop a more objective and transparent methodology for the prioritization of SHOPP projects based on best practices and decision-making sciences. An initial literature review indicated that there were various competing methodologies for decision-making and project prioritization. Recognizing the limited experience in decision analysis theory of the project team members, two well-regarded experts in the field of decision analysis were brought onboard in September 2014 to provide knowledge transfer and initial guidance. Dr. Ralph Keeney conducted interviews with Caltrans Executive Managers over the course of a day and delivered a report compiling observations, findings, and recommendations. In an independent effort, Dr. Lee Merkhofer organized a one-day workshop that included Caltrans Executives, SHOPP Division Chiefs, and SHOPP Program Managers. The workshop had both educational and framework development components. Guided by the findings and recommendations from the two consultants, the team pursued the development of a Multi-Objective Decision Analysis (MODA) approach for project prioritization.

WHAT WAS OUR GOAL?

The goal of this work was to develop a more objective and transparent methodology for the prioritization of SHOPP projects based on best practices and decision-making sciences.



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WHAT DID WE DO?

This work was carried out under a pilot project to develop and apply a Multi-Objective Decision Analysis (MODA) framework to prioritize projects within the State Highway Operation and Protection Program (SHOPP). Two leading experts in the field of decision analysis and project prioritization were engaged through a research project to provide initial guidance in this larger effort. The work led to the establishment of a prototype project prioritization framework.

WHAT WAS THE OUTCOME?

The work led to the establishment of a prototype project prioritization framework.

WHAT IS THE BENEFIT?

A MODA-based approach brings transparency to the project prioritization process, provides a quantitative basis for decision-making, and provides a mechanism to communicate the alignment of project priorities with strategic objectives.

LEARN MORE

http://www.dot.ca.gov/tam/documents/SHOPP_Pilot_Project_Final_Report_6-17-15.pdf

IMAGES

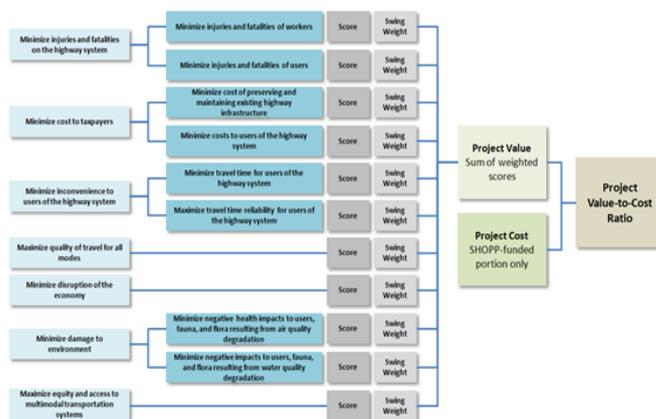


Image 1: Value Function Calculation Framework

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